Analytical Data Package Prepared For

Pacific Northwest National Lab

Radiochemical Analysis By

STL Richland STLRL

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Data Package Contains _____ Pages

Report Nbr: 34299

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05072 I	S06-007	B1JL44	J6L010207-1	JKMQ41AF	9JKMQ410	6353581

DSayles
5/14/12

RECORD COPY
PROJ. 52494
CAT. T3.2
WORKING COPY

Comments:

RECEIVED
FEB 13 2007
D.L. STEWART
17 pages

SEVERN TRENT STL

STL Richland
2800 George Washington Way
Richland, WA 99354

Tel: 509 375 3131 Fax: 509 375 5590
www.stl-inc.com

Certificate of Analysis

Pacific Northwest National Laboratories
Sigma V Building
Richland, WA 99352

February 9, 2007

Attention: Dot Stewart

SAF Number	:	S06-007
Date SDG Closed	:	December 14, 2006
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W050721
Data Deliverable	:	45-Day / Summary

CASE NARRATIVE

I. Introduction

On November 30, 2006 one water sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Pacific Northwest National Laboratories (PGW) specific ID:

PGW ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1JL44	JKMQ4	WATER	11/30/06

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Liquid Scintillation Counting
Enriched Tritium by method RICH-RC-5024

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Liquid Scintillation Counting
Enriched Tritium by method RICH-RC-5024
There was an obvious blank LCS switch. It was corrected in Rad Calc. Data is accepted. Except as noted, the LCS, batch blank, samples and sample duplicate (B1JL44) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Sherryl A. Adam
Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) *u_c - Combined Uncertainty.*	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, *u_c the combined uncertainty*. The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

STL Richland Report

FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 34299 File Name: h:\Reportdb\edd\FeadIV\Rad\W05072.Edd, h:\Reportdb\edd\FeadIV\Rad\34299.Edd

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9JKMQ410	B1JL44		MW6-SBB-A1	S06-007	W05072					11/30/2006 12:39

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6353581	H-3	10028-17-8	9.90E+01	pCi/L	8.6E+00	2.0E+01		5.21E+00	100.0	TRITIUM_ELECT_L	1.50E-01	L	02/08/2007 02:15	I

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Monday, February 12, 2007

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05072.Edd, h:\Reportdb\edd\FeadIV\Rad\34299.Edd

Lab Sample Id:	JLTD71CB	**Sdg/Rept Nbr:**	W05072	34299	**Collection Date:** 11/30/2006 12:39
Client Id:	NA	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	BLK		**Received Date:** 11/30/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AD	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353581	H-3	8.57E+00	pCi/L	6.0E+00		5.25E+00	100.0		TRITIUM_ELE	1.50E-01	02/08/2007				D
BLK	10028-17-8			4.2E+00						L	00:57				

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Monday, February 12, 2007

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05072.Edd, h:\Reportdb\edd\FeadIV\Rad\34299.Edd

Lab Sample Id:	JLTD71AS	**Sdg/Rept Nbr:**	W05072	34299	**Collection Date:** 11/30/2006 12:39
Client Id:	NA	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	BS		**Received Date:** 11/30/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AC	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353581	H-3	4.09E+02	pCi/L	7.2E+01		5.19E+00	100.0	4.57E+02	TRITIUM_ELE	1.5002E-01	02/07/2007			70	D
BS	10028-17-8			1.6E+01				89.6		L	23:40			130	

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Monday, February 12, 2007

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05072.Edd, h:\Reportdb\edd\FeadIV\Rad\34299.Edd

Lab Sample Id:	JKMQ41JR	**Sdg/Rept Nbr:**	W05072	34299	**Collection Date:** 11/30/2006 12:39
Client Id:	B1JL44	**Matrix:**	WATER	WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:**	DUP		**Received Date:** 11/30/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
S06-007	MW6-SBB-A19981								AB	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6353581	H-3	1.11E+02	pCi/L	2.2E+01		5.18E+00	100.0		TRITIUM_ELE	1.50E-01	02/08/2007	11.7	0.8		D
DUP	10028-17-8	9.90E+01		1.1E+01						L	03:33	20.0	3		

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

2/8/2007 9:24:43 AM

Lot No., Due Date: J6L010207; 01/29/2007

Client, Site: 384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 6353581; RH3EE H3EE by LSC

SDG, Matrix: W05072; WATER

1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓ Yes	No	N/A
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓ Yes	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	✓ Yes	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓ Yes	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓ Yes	No	N/A
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓ Yes	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	✓ Yes	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	✓ N/A
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓ Yes	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	✓ Yes	No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓ Yes	No	N/A
4.2 Were analysis volumes entered correctly?	✓ Yes	No	N/A
4.3 Were Yields entered correctly?	✓ Yes	No	N/A
4.4 Were spectra reviewed/meet contractual requirements?	✓ Yes	No	N/A
4.5 Were raw counts reviewed for anomalies?	✓ Yes	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	✓ Yes	No	N/A
5.2 Are all required forms filled out?	✓ Yes	No	N/A
5.3 Was the correct methodology used?	✓ Yes	No	N/A
5.4 Was transcription checked?	✓ Yes	No	N/A
5.5 Were all calculations checked at a minimum frequency?	✓ Yes	No	N/A
5.6 Are worksheet entries complete and correct?	✓ Yes	No	N/A

6.0 Comments on any No response:
See NCM 10-09411.

First Level Review Angela Long **Date** 2/8/07

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6353581
W05072

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: See NCM

Second Level Review: Kerryl R Adam Date: 2-9-07

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-09411**
NCM Initiated By: angela long
Date Opened: 02/08/2007
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: H3EE by LSC
Lot #'s (Sample #'s): J6L010207 (1), J6L190000 (581),
QC Batches: 6353581

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
angela long	02/08/2007	The blank and the LCS were switched. They were corrected and the results are good, so the batch will be accepted.

Corrective Action

Name	Date	Corrective Action
angela long	02/08/2007	The analyst was asked to be more careful.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

34299

PNNL U6LC10207
W05772
Due 01-15-07

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S06-007-170**

Collector: FLUOR HANFORD M.R. WEIL	Contact/Requester: Dot Stewart	Telephone No. 509-376-5056 / MSIN / FAX
SAF No. S06-007	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV, JULY 2006	HNF-N-506-4	Ice Chest No. SAWS-115 / Temp.
Shipped To (Lab): Severn Trent Incorporated, Richland	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Batch all PNNL GW samples submitted under "W", "S", "I", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days.
Submit invoices & deliverables to DL Stewart, PNNL.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1JL44		W	11-30-06	1237	1x20-mL P	Activity Scan	None
B1JL44		W	↓	↓	3x1000-mL P	TRITIUM_ELECT_LSC_LL: H-3 (1)	None
B1JL44		W	↓	↓	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
B1JL44		W	↓	↓	1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2) JKMQ4	HNO3 to pH <2
B1JL44		W	↓	↓	1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCl to pH <2
B1JL44		W	↓	↓	2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	None

Relinquished By	Date/Time	Received By	Date/Time
FLUOR HANFORD M.R. WEIL (Print) M.R. Weil (Sign)	NOV 30 2006 1345	S. Smith (Print) S. Smith (Sign)	NOV 30 2006 1345

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., Return to customer, per lab procedure, used in process) — Disposed By — Date/Time

STL RICHLAND 58

STL RICHLAND 13

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 11-30-06 1345

Client: PGW SDG #: L005072 NA [ ] SAF #: 306-007 NA [ ]

Work Order Number: VGL010207 Chain of Custody # 306-007-170, 176

Shipping Container ID: SAWS-115 Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [X] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [X] No [ ]
3. Chain of Custody record present? Yes [X] No [ ]
4. Cooler temperature: _____ NA [X] 5. Vermiculite/packing materials is NA [X] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 2
7. Sample holding times exceeded? NA [X] Yes [ ] No [ ]
8. Samples have:
   _____tape
   _____custody seals
   _____hazard labels
   1 appropriate samples labels
9. Samples are:
   1 in good condition
   _____broken
   _____leaking
   _____have air bubbles
   (Only for samples requiring head space)
10. Sample pH taken? NA [ ] pH<2 [X] pH>2 [X] pH>9 [ ]
11. Sample Location, Sample Collector Listed? * Yes [X] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [X]
13. Description of anomalies (include sample numbers): N/A

Sample Custodian: L. Smith Date: 11-30-06 1345

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/03, Rev. 5

STL RICHLAND

12/19/2006 3:58:13 PM

Sample Preparation/Analysis

384868, Pacific Northwest National Laboratory , Pacific Northwest National Lab

AS H-3 Prp/SepRC5024
U3 Enriched Tritium by Liquid Scint
5I CLIENT: HANFORD

Balance Id: 12424
Pipet #: _____
Sep1 DT/Tm Tech: 1-26-07 Bm
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 01/15/2007 WO5012

Batch: 6353581 WATER pCi/L
SEQ Batch, Test: None

PM, Quote: SA , 57671

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JKMQ4-1-AF J6L010207-1-SAMP 11/30/2006 12:39	AmtRec: 20ML,2X500ML,4XLP,2X4LP #Containers: 9					Scr:	Alpha:	Beta:
2 JKMQ4-1-AJ-X J6L010207-1-DUP 11/30/2006 12:39	AmtRec: 20ML,2X500ML,4XLP,2X4LP #Containers: 9					Scr:	Alpha:	Beta:
3 JLTD7-1-AA-B J6L190000-581-BLK 11/30/2006 12:39	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
4 JLTD7-1-AC-C J6L190000-581-LCS 11/30/2006 12:39	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:
5 JLTD7-1-AD-BN J6L190000-581-IBLK 11/30/2006 12:39	AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA , 57671

JKMQ41AF-SAMP Constituent List:
H-3 RDL:1.00E+01 pCi/L LCL:70 UCL:130 RPD:20

15

12/19/2006 3:58:14 PM

Sample Preparation/Analysis

AS H-3 Prp/SepRC5024
U3 Enriched Tritium by Liquid Scint
5l CLIENT: HANFORD

Balance Id: 12424
Pipet #:
Sep1 DT/Tm Tech: 1-26-07 tm
Sep2 DT/Tm Tech:
Prep Tech:

AnalyDueDate: 01/15/2007

Batch: 6353581
SEQ Batch, Test: None

pCi/L

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

```
JLTD71AA-BLK:
  H-3          RDL:1.00E+01    pCi/L     LCL:          UCL:          RPD:
JLTD71AC-LCS:
  H-3          RDL:10          pCi/L     LCL:70        UCL:130       RPD:20
JLTD71AD-IBLK:
  H-3          RDL:1.00E+01    pCi/L     LCL:          UCL:          RPD:
JKMQ41AF-SAMP Calc Info:
     Uncert Level (#s).: 2      Decay to SaDt: Y      Blk Subt.: N      Sci.Not.: Y      ODRs: B
JLTD71AA-BLK:
     Uncert Level (#s).: 2      Decay to SaDt: Y      Blk Subt.: N      Sci.Not.: Y      ODRs: B
JLTD71AC-LCS:
     Uncert Level (#s).: 2      Decay to SaDt: Y      Blk Subt.: N      Sci.Not.: Y      ODRs: B
JLTD71AD-IBLK:
     Uncert Level (#s).: 2      Decay to SaDt: Y      Blk Subt.: N      Sci.Not.: Y      ODRs: B
```

Approved By _____ Date: _____

2/8/2007 9:23:30 AM

ICOC Fraction Transfer/Status Report

ByDate: 2/8/2006, 2/13/2007, Batch: '6353581', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6353581						
AC		CalcC	McDowellD	1/25/2007 11:57:15		
SC			wagarr	IsBatched	12/19/2006 4:02:33 PM	ICOC_RADCALC v4.8.26
SC			McDowellD	InSep1	1/25/2007 11:57:15 AM	RICH-RC-5024 REVISION 2
SC			ICOC	IsRpt	1/30/2007 4:31:06 AM	ICOC_RADCALC v4.8.17
SC			McDowellD	Sep1C	2/7/2007 2:43:02 PM	RICH-RC-5024 REVISION 2
SC			DAWKINSO	InCnt1	2/7/2007 3:04:07 PM	RICH-RD-0001 REVISION 3
SC			BlackCL	CalcC	2/8/2007 6:27:54 AM	RICH-RD-0001 REVISION 3
AC			McDowellD	1/26/2007 4:10:17 PM		
AC			McDowellD	2/7/2007 2:43:02 PM		
AC			DAWKINSO	2/7/2007 3:04:07 PM		
AC			BlackCL	2/8/2007 6:27:54 AM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.26